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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/674,304	08/06/2001	Yutaka Yamagata	107734	5220

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EXAMINER

QUAN, ELIZABETH S

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/674,304

Applicant(s)

YAMAGATA ET AL.

Examiner

Elizabeth Quan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-13 and 15-18 is/are rejected.
- 7) ☒ Claim(s) 1, 7 and 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3 sheets</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION***Information Disclosure Statement***

1. The information disclosure statement filed 10/31/2000 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. The Japanese reference with document number 6-98728 has been placed in the application file, but the information referred to therein has not been considered. There is no way to establish whether U.S. Patent No. 5,482,369 is an English equivalent of the Japanese reference since the U.S. patent does not claim priority to the Japanese patent and the U.S. patent has two sets of priority data, such that the U.S. patent may not necessarily contain the same information as the Japanese patent.

Claim Objections

2. Claim 1 is objected to because of the following informalities: "an" instead of "a" should be before "injection tube" in line 3. Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-18 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the liquid treating equipment with a flow path with a depth greater than a desired liquid level, does not reasonably provide enablement for any other configuration other

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than the relationship of the flow path with the desired liquid level. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. The claimed invention would not work if the flow path is at a lesser or same depth as a desired liquid level since no liquid would ever spill into the flow path, such that there would be no liquid in the discharging vessel for the discharge tube to discharge.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claims 10 and 11 are rendered indefinite by the recitation of almost at the center of the surface shape of the discharge vessel since it is unclear what the surface shape is referring to and how to determine where the center of the surface shape is.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 3,085,717 to Anscherlik.

Anscherlik discloses a liquid treating equipment (see figure). A storage vessel (3) stores a liquid supplied by a liquid supplying means (P) through an injection tube (91), which extends above the storage vessel (see figure). A discharging vessel (8) is joined with the storage vessel (3) by a flow path (7) (see figure). At least the bottom surface of the flow path is situated at a lower level position than the desired level of liquid (L) to be stored in the storage vessel (see figure). A discharge tube (2) has a discharging inlet positioned on the discharging vessel to allow liquid to be discharged from the discharging vessel (see figure). The discharging inlet is positioned at the almost same level position as a desired liquid level (L) of the liquid to be injected into the storage vessel as shown by the inlet on the discharging vessel near the line representing the desired liquid level (see figure). The discharging inlet appears to be positioned at the center of the exterior surface of the discharging vessel, which has a rounded surface (see figure). A liquid discharging means (4) discharges the liquid from the discharging vessel (8) through the discharge tube (see figure; col. 2, lines 44-54). The limitation of the liquid discharging means with a sufficient flow rate larger than that of the liquid supply means is considered a recitation of intended use that does not structurally further define the equipment. Therefore, as long as the liquid discharging means is capable of a flow rate larger than that of the liquid supply means the limitation is met. The method of forming the device is not germane to the issue of patentability of the device itself. Therefore, the limitation of the storage vessel, flow path, and discharging vessel formed at a single base material has not been given patentable weight, especially since the ultimate structure of the apparatus is not affected.

3. Claims 1-3, 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,140,527 to Jones et al.

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Jones et al. disclose a liquid treating equipment (fig. 1). A storage vessel (42) stores a liquid supplied by a liquid supplying means (36,40) through an injection tube (44), which extends into the storage vessel (fig.1). A discharging vessel (12) is joined with the storage vessel by a flow path (46) (fig. 1). A discharge tube (16) has a discharging inlet positioned on the discharging vessel to allow liquid to be discharged from the discharging vessel by a liquid discharging means (14) (fig. 1). It appears the discharging inlet is positioned at the almost same level position as a desired liquid level of the liquid to be injected into the storage vessel (fig. 1). The discharging inlet appears to be positioned at the center of the exterior surface of the discharging vessel, which has a rounded surface (fig. 1). The discharging vessel appears to have a surface area twice or over as large as that of the storage vessel (fig. 1). The limitation of the liquid discharging means with a sufficient flow rate larger than that of the liquid supply means is considered a recitation of intended use that does not structurally further define the equipment. Therefore, as long as the liquid discharging means is capable of a flow rate larger than that of the liquid supply means the limitation is met. The method of forming the device is not germane to the issue of patentability of the device itself. Therefore, the limitation of the storage vessel, flow path, and discharging vessel formed at a single base material has not been given patentable weight, especially since the ultimate structure of the apparatus is not affected.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,085,717 to Anscherlik.

Anscherlik fails to disclose a liquid discharging means facilitating discharge through the discharge tube. Rotary displacement pumps and positive displacement pumps with plungers moving back and forth in their cylinders by a pulse motor are very well known and often used to supply and discharge liquids. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a rotary air pump or positive displacement pump with plungers moving back and forth in their cylinders by a pulse motor to facilitate quick and precise supplying of liquid to the storage tank and discharging of the liquid to

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prevent accumulation of liquid in the discharging vessel and backflow of liquid into the storage vessel with the use of suction to more quickly discharge fluid and unclog the discharge tube.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,085,717 to Anscherlik in view of U.S. Patent No. 3,909,205 to Jones.

Anscherlik fails to disclose the injecting inlet of the injection tube is positioned at a lower level position than the desired liquid level of the liquid to be stored in the storage vessel. Placing the injecting inlet below liquid levels is very well known. See for example, Jones who teaches placing the injection tube (18) downward into the storage vessel, such that the lower ends of the injection tube is below the liquid level in the storage vessel (col. 2, lines 16-20). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to place the injecting inlet below the desired liquid level to prevent splashing as taught by Jones (col. 2, lines 16-20).

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,140,527 to Jones et al.

It is unclear whether the discharge vessel has a surface area that is at least ten times as large as that of the storage vessel. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a larger discharging vessel that would be at least ten times as large as the surface area of the storage vessel if necessary or desired to hold more liquid (or mud in this circumstance). Furthermore, it has been held that where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from

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the prior art device (*Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984)).

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,085,717 to Anscherlik or U.S. Patent No. 5,140,527 to Jones et al.

Each of Anscherlik and Jones et al. do not explicitly disclose that the discharge vessel has a depth smaller than the storage vessel. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a discharge vessel that has a depth smaller than the storage vessel to facilitate quicker draining of the discharge vessel and prevent overflow and backflow of liquids.

11. Alternatively, claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,085,717 to Anscherlik.

Anscherlik fails to disclose that the liquid discharging means has a sufficient flow rate larger than that of the liquid supplying means. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the liquid discharging means at a flow rate larger than that of the liquid supplying means to prevent flooding and spilling in the equipment.

12. Alternatively, claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,085,717 to Anscherlik or U.S. Patent No. 5,140,527 to Jones et al.

Each of Anscherlik and Jones et al. fail to address whether the storage vessel, flow path, and discharging vessel are formed integrally. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the storage vessel, flow path, and discharging vessel integrally to reduce the number of manufacturing steps for

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simplicity. Furthermore, it has been held that forming in one piece an article, which has formerly been formed in a plurality of pieces and put together, involves only routine skill in the art (*Howard v. Detroit Stove Works*, 150 U.S. 164 (1893)).

13. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,085,717 to Anscherlik or U.S. Patent No. 5,140,527 to Jones et al. in view of JP 9-101099 to Hashizume et al.

Each of Anscherlik and Jones et al. fail to address whether the storage vessel, flow path, and discharging vessel are formed integrally from a material like acrylic board. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to integrally form the storage vessel, flow path, and discharging vessel from acrylic board to provide a biocompatible, leak-tight device as taught by Hashizume et al.

Allowable Subject Matter

14. Claims 7 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not teach or fairly suggest an opened canaliculated shape nor hydrophilic-treated surfaces of the liquid treating equipment as recited in the claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Quan whose telephone number is (571) 272-1261. The examiner can normally be reached on M-F (8:00-4:30).


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elizabeth Quan
Examiner
Art Unit 1743

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Jill Warden
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